What is Claimed is:

1. A polypeptide comprising a stabilized viral envelope protein trimer, said trimer comprising a C-terminal heptad repeat region of the ectodomain in a prefusogenic conformation.

2. The polypeptide of claim 1, wherein said polypeptide is that of an enveloped virus selected from the group consisting of HIV1, HIV2, SIV, Mo-MLV, influenza virus, and Ebola virus.

3. The polypeptide of claim 1, wherein the stabilized viral envelope protein trimer is recombinantly produced.

4. The polypeptide of claim 1, wherein the stabilized viral envelope protein trimer is synthetically produced.

5. The polypeptide according to claim 1, wherein the trimer is stabilized by insertion of an isoleucine zipper.

6. The polypeptide of claim 1 wherein the trimer is stabilized by one or more point mutations.

7. The polypeptide of claim 1 wherein the trimer is stabilized by chemical cross linking.

8. The polypeptide of claim 1 comprising a stabilized HIV gp41 trimer, said trimer comprising three gp41 monomers that form a trimeric coiled coil, in a prefusogenic conformation.

9. The polypeptide according to claim 8, wherein the gp41 monomers comprise the carboxyl-terminal core region of the gp41 ectodomain.

10. The polypeptide according to claim 8, wherein the trimer is stabilized by chemical cross-linking of gp41 monomers.

11. The polypeptide according to claim 8, wherein the trimer is stabilized by one or more point mutations in one or more gp41 monomers.

12. The polypeptide of claim 8 wherein the gp41 monomers are recombinantly produced.

13. The polypeptide of claim 8 wherein the gp41 monomers are synthetically produced.

14. A vaccine for the prevention or treatment of infection by an enveloped virus, said vaccine comprising: a stabilized viral envelope protein trimer, wherein said trimer comprises a C-terminal heptad repeat region of the ectodomain in a prefusogenic conformation.

15. The vaccine according to claim 14, wherein the trimer is stabilized by insertion of an isoleucine zipper.

16. The vaccine according to claim 14, wherein the trimer is stabilized by chemical cross linking.

17. The vaccine according to claim 14, wherein the trimer is stabilized by one or more point mutations.

18. The vaccine according to Claim 14 comprising: a stabilized HIV gp41 trimer, said trimer comprising three gp41 monomers that form a trimeric coiled coil, in a prefusogenic conformation.

19. The vaccine according to claim 18, wherein the gp41 monomers comprise the carboxyl terminal core region of the gp41 ectodomain.

20. The vaccine according to claim 18, wherein the trimer is stabilized by chemical cross-linking of gp41 monomers.

21. The vaccine according to claim 18, wherein the trimer is stabilized by one or more point mutations in one or more gp41 monomers.

22. The vaccine according to claim 18, wherein the gp41 monomers are recombinantly produced.

23. The vaccine according to claim 18, wherein the gp41 monomers are synthetically produced.

24. The vaccine according to claim 14 or 18, further comprising a suitable adjuvant.

25. A method of vaccinating an individual to prevent or treat infection by an enveloped virus, comprising:

administering to the individual an immunogenically effective amount of a composition comprising the vaccine according to claim 14.

26. The method of claim 25, wherein the enveloped virus is selected from the group consisting of SIV, Mo-MLV, influenza virus, and Ebola virus.

27. The method according to claim 25, wherein the vaccine is administered in combination with a physiologically acceptable carrier or diluent.

28. The method according to claim 27, wherein the carrier or diluent is sterile water or phosphate-buffered saline.

29. A method of vaccinating an individual to prevent or treat HIV infection or AIDS, comprising:

administering to the individual an immunogenically effective amount of a composition comprising the vaccine according to claim 18.

30. An antibody or binding portion thereof, raised against a polypeptide, said polypeptide comprising a stabilized viral envelope protein trimer, said trimer comprising a C-terminal heptad repeat region of the ectodomain in a prefusogenic conformation.

31. The antibody or binding portion thereof, according to claim 30, wherein the antibody or binding portion is monoclonal or polyclonal.

32. The antibody or binding portion thereof according to claim 30, raised against a C terminus trimeric coiled coil motif of an HIV gp41 ectodomain.

33. A method of detecting an enveloped virus in a sample comprising: exposing a sample to the antibody or binding portion thereof according to claim 30, and identifying binding between the enveloped virus and the antibody or binding portion thereof.

34. The method of claim 33, wherein the enveloped virus is selected from the group consisting of HIV1, HIV2, SIV, Mo-MLV, influenza virus, and Ebola virus.

35. The method of claim 34 comprising:

exposing a sample to the antibody or binding portion of claim 30 and identifying binding between HIV and the antibody or binding portion thereof.

36. A method of making an antibody or binding portion thereof according to claim 30 comprising:

exposing an antibody-producing cell to an isolated viral envelope protein trimer, said trimer comprising a C-terminal heptad repeat region of the ectodomain in a prefusogenic conformation.

37. The method of claim 36, wherein the antibody-producing cell is a hybridoma cell in culture.

38. The method of claim 36, wherein the antibody-producing cell is present in a living organism.

39. The method of claim 36 which comprises:

exposing an antibody-producing cell to an isolated HIV gp41 trimer comprising three gp41 monomers that form a trimeric coiled coil, in a prefusogenic conformation, under conditions effective to produce the antibody or binding portion thereof.

40. A method of inhibiting infectivity of an enveloped virus, comprising:

contacting the enveloped virus with a suitable amount of an antibody or binding portion thereof according to claim 28, under conditions effective to inhibit infectivity of the enveloped virus.

41. The method of claim 40, wherein the enveloped virus is selected from the group consisting of HIV1, HIV2, SIV, Mo-MLV, influenza virus, and Ebola virus.

42. The method of claim 40, wherein said contacting comprises administering the antibody or binding portion thereof to a host before or following exposure of the host to an enveloped virus.

43. The method of claim 40 comprising: contacting HIV with a suitable amount of the antibody or binding portion thereof according to claim 30 under conditions effective to inhibit HIV infectivity.

44. The method of claim 43, wherein said contacting comprises administering the antibody or binding portion thereof to a host before or following exposure of the host to an infective HIV strain.

45. A method for screening for drugs which can inhibit infection by an enveloped virus comprising:

providing a polypeptide comprising a stabilized viral envelope protein trimer, said trimer comprising a C-terminal heptad repeat region of the ectodomain in a prefusogenic conformation, and identifying those compounds which bind to the protein trimer.

46. The method of claim 45 comprising: providing a gp41 trimer comprising three gp41 monomers that form a trimeric coiled coil in a prefusogenic conformation; exposing the trimer to a compound; and identifying those compounds which bind to the gp41 trimer.

47. The method according to claim 46, further comprising:

determining whether gp41 bound to the compound binds less effectively to gp120 than gp41 not bound to the compound.